Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (currently amended) An isolated ~~or recombinant nucleic acid~~ *MEN1* gene ~~encoding menin~~, wherein said ~~nucleic acid~~ *MEN1* gene encodes a protein ~~comprising an amino acid sequence having at least 95% identity to~~ having the amino acid sequence of SEQ ID NO:2.

2. (cancelled)

3. (currently amended) The isolated ~~or recombinant nucleic acid~~ *MEN1* gene ~~encoding menin~~ of claim 1, wherein the *MEN1 gene* ~~sequence~~ comprises ~~the coding region of~~ SEQ ID NO:1.

4. (currently amended) The isolated ~~or recombinant nucleic acid~~ *MEN1* gene ~~encoding menin~~ of claim1, wherein the *MEN1 gene* ~~sequence~~ comprises SEQ ID NO:3.

5.-23. (cancelled)

24. (currently amended) A kit for detecting in a test sample the presence or absence of a mutation in a *MEN1* gene ~~comprising a nucleotide sequence encoding a menin polypeptide as set forth in SEQ ID NO:2~~ having the sequence of SEQ ID NO:3, the kit comprising;

a) a container holding an ~~first~~ oligonucleotide sequence that ~~discriminates between the wild-type gene and the mutant form~~; binds to a target region of SEQ ID NO:3; and

b) a container holding a reagent for detecting the formation of a duplex between the gene and the first nucleotide sequence.

25. (cancelled)

26. (currently amended) The kit of claim 24, further comprising amplification primer pairs specifically binding to a human ~~genomic DNA sequence encoding menin~~ *MEN1* gene having the sequence of SEQ ID NO:3.

27.-29. (cancelled)

30. (currently amended) A transfected cell *in vitro*, wherein the cell comprises a ~~heterologous~~ nucleic acid of claim 1.

31. (cancelled)

32. (currently amended) The transfected cell of claim 30, wherein the ~~heterologous~~ nucleic acid comprises a nucleic acid as set forth in SEQ ID NO:1 or SEQ ID NO:3.

33. (previously presented) The transfected cell of claim 30, wherein the cell is a human cell.

34. (withdrawn) An organism into which an exogenous nucleic acid sequence has been introduced, the exogenous nucleic acid specifically hybridizing under stringent conditions to a nucleic acid with:

a sequence as set forth in SEQ ID NO:1; or,

a nucleic acid encoding a protein defined as having a calculated molecular weight of about 67.5 kDa; and (a) specifically binding to an antibody raised against an protein with a sequence as set forth in SEQ ID NO:2; or (b) having at least 60% amino acid sequence identity to a protein with a sequence as set forth in SEQ ID NO:2; and,

the organism expresses the exogenous nucleic acid as a menin protein.

35. (withdrawn) The organism of claim 34, wherein the exogenous nucleic acid comprises the nucleic acid as set forth in SEQ ID NO:1 or SEQ ID NO:3.

36. (previously presented) An expression cassette comprising a nucleic acid of claim 1, wherein the nucleic acid is operably linked to a promoter.

37. (original) The expression cassette of claim 36, further comprising an expression vector.

38.-42. (cancelled)

43. (new) A method for detecting the presence or absence of a mutation in a target region of SEQ ID NO:3 in a nucleic acid sample, the method comprising:

a) contacting the nucleic acid sample with an oligonucleotide probe to the target region of SEQ ID NO:3; and,

b) detecting the formation of a duplex between the gene and the oligonucleotide.

44. (new) The method of claim 43, wherein the target region SEQ ID NO:3 comprises an exon of SEQ ID NO:3.

45. (new) A method for detecting the presence or absence of a mutation in a target region of SEQ ID NO:3 in a nucleic acid sample, the method comprising:

incubating the nucleic acid sample in an amplification reaction comprising primers that amplify the target region of SEQ ID NO:3;

contacting the amplified product with an oligonucleotide probe to the amplified region of SEQ ID NO:3; and,

detecting the formation of a duplex between the amplified product and the oligonucleotide probe.

46. (new) The method of claim 45, wherein the amplified region comprises an exon of SEQ ID NO:3.

47. (new) A method for detecting the presence or absence of a mutation in a target region of SEQ ID NO:3 in a nucleic acid sample, the method comprising:

incubating the nucleic acid sample from the individual in an amplification reaction comprising primers that amplify a target region of SEQ ID NO:3; and

determining the sequence of the target region.